Office of River Protection
Consent Decree
Monthly Report

Monthly Reporting Period

November 1−November 30, 2019[1]

Consent Decree, *State of Washington v. Dept. of Energy*, No: 08-5085-FVS (October 25, 2010)
Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016)
Second Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (April 12, 2016)
Third Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (October 12, 2018)[2]

[1] The narrative descriptions of progress in this report cover the reporting period. Information outside the reporting period may also be included for purposes of providing continuity or useful context. Information may be repeated in multiple sections of this report for continuity and clarity. Earned Value Management System data and descriptions cover the period through October 2019.

[2] The consent decrees listed above are between the State of Washington and U.S. Department of Energy. For the first three of these decrees, there are similar separate decrees with the State of Oregon.

Acronyms and Abbreviations

AoA	analysis of alternatives
BNI	Bechtel National, Inc.
BOF	Balance of Facilities
CV	cost variance
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
Ecology	Washington State Department of Ecology
EMF	Effluent Management Facility
ERSS	extended reach sluicer system
FY	fiscal year
HLW	High-Level Waste (Facility)
HVAC	heating, ventilation, and air-conditioning
LAB	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LBL	Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
ORP	U.S. Department of Energy, Office of River Protection
PT	Pretreatment (Facility)
SV	schedule variance
WTP	Waste Treatment and Immobilization Plant

Consent Decree Milestone Statistics/Status

Milestone	Title	Due Date	Completion Date	Status
Fiscal Year 2021				
D-00A-07 Interim	LAW Facility Construction Substantially Complete	12/31/2020		On Schedule
D-16B-03	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank waste in at least 5	06/30/2021[1]		On Schedule
Fiscal Year 2023				
D-00A-08 Interim	Start LAW Facility Cold Commissioning	12/31/2022		On Schedule
Fiscal Year 2024				
D-00A-09 Interim	LAW Facility Hot Commissioning Complete	12/31/2023		On Schedule
Fiscal Year 2026				
D-16B-02	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106. AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3 DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly	09/30/2026[1]		Under Analysis[2]
Fiscal Year 2031				
D-00A-02 Interim	HLW Facility Construction Substantially Complete	12/31/2030		At Risk[3]
Fiscal Year 2032				
D-00A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031		At Risk[3]
D-00A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031		At Risk[3]
D-00A-19 Interim	Complete Elevation 98 feet Concrete Floor Slab Placements in PT Facility	12/31/2031		At Risk[3]
D-00A-03 Interim	Start HLW Facility Cold Commissioning	06/30/2032		At Risk[3]

Milestone	Title	Due Date	Completion Date	Status
D-00A-06 Interim	Complete Methods Validations	06/30/2032		On Schedule
Fiscal Year 2033				
D-00A-15 Interim	Start PT Facility Cold Commissioning	12/31/2032		At Risk[3]
Fiscal Year 2034				
D-00A-04 Interim	HLW Facility Hot Commissioning Complete	12/31/2033		At Risk[3]
D-00A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033		At Risk[3]
D-00A-17	Hot Start of WTP	12/31/2033		At Risk[3]
Fiscal Year 2037				
D-00A-01	Achieve Initial Plant Operations for the WTP	12/31/2036		At Risk[3]

[1] Third Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (October 12, 2018).

[2] As discussed in the joint motion to amend the Consent Decree filed on October 1, 2018, DOE is engaged in ongoing analysis of non-vapors-related retrieval challenges and tank condition issues associated with Tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone). These issues are under analysis, and could require issuance of a "serious risk" notice or another request for amendment of the Consent Decree (including the B-2 Milestone). DOE met with Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of tanks A-104 and A-105. Since August 2018, DOE has had several discussions with Ecology on this topic.

[3] 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)."

DOE = U.S. Department of Energy.
Ecology = Washington State Department of Ecology.
HLW = high-level waste.
LAW = low-activity waste.
PT = pretreatment.
SST = single-shell tank.
WTP = Waste Treatment and Immobilization Plant.

Consent Decree Reports/Reviews

D-16C-03 series, Submit to State of Washington and State of Oregon Quarterly Report

Due: Forty-five days following each calendar year quarter (February 14, May 15, August 14, November 14).
Status: On Schedule.

D-00C-02 series, Submit to State of Washington and State of Oregon Monthly Summary Reports

Due: End of each month.
Status: On Schedule.

D-006-00-B1, Provide State of Oregon notice of meetings in D-006-00-B, etc. no less than 30 days before they are scheduled

Due: See below.
Status: On Schedule.

D-006-00-B, Meet Approximately Every Three Years after Entry of Decree to review requirements of the Consent Decree

Due: Approximately 3 years from March 16, 2017.
Status: On Schedule.

D-16E-01, DOE must purchase by December 31, 2016 a spare E-A-1 reboiler for the 242-A Evaporator

Due: December 31, 2016.
Status: Complete (November 15, 2016).

D-16E-02, Have available spare E-A-1 reboiler for the 242-A Evaporator

Due: December 31, 2018.
Status: Complete (May 8, 2018).

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Jeff Rambo

Milestone	Title	Due Date	Status
D-16B-03	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank waste in at least five	06/30/2021[1]	On Schedule
D-16B-01	Complete retrieval of tank waste from the following remaining SSTs in WMA-C: C-102, C-105, and C-111	03/31/2024	Complete
D-16B-02	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106, AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3 DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly	09/30/2026[1]	Under Analysis[2]

[1] Third Amended Consent Decree, *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (October 12, 2018).

[2] As discussed in the joint motion to amend the Consent Decree filed on October 1, 2018, DOE is engaged in ongoing analysis of non-vapors-related retrieval challenges and tank condition issues associated with Tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone). These issues are under analysis, and could require issuance of a "serious risk" notice or another request for amendment of the Consent Decree (including the B-2 Milestone). DOE met with Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of tanks A-104 and A-105. Since August 2018, DOE has had several discussions with Ecology on this topic.

DOE = U.S. Department of Energy.
Ecology = Washington State Department of Ecology.
SST = single-shell tank.
WMA-C = C Tank Farm waste management area.

Significant Accomplishments during the Prior Month:

Completed Accomplishments:

- Removed the top portions (approximately 21 feet) of Tank A-101 R2 thermocouple
- Completed lowering the remaining damaged section of Tank A-103 R2 thermocouple to the tank bottom
- Completed installation of the electrical power to the A Tank Farm exhausters (POR518/519)
- Resumed Tank AX-102 waste retrieval operations (70 percent complete).

Ongoing Activities:

- Continue removal of long-length equipment at Tank AX-101
- Installation of A Tank Farm ventilation system:
  - Install control systems for the exhauster
  - Remove cover blocks, clean pits, and thermocouple trees from risers (to connect the ventilation system)
  - Continue installation of duct riser assemblies, air inlet stations, and testing
- Continue Tank AX-102 waste retrieval operations (approximately 70 percent retrieved)
- Installation of waste retrieval equipment in Tank AX-104
- Continue work to resolve Tank A-101 1C Pit stuck shield plug and install air inlet station.

Significant Planned Activities in the Next Month:

- Power up the A Tank Farm exhausters and initiate construction acceptance testing
- Remove Tank A-103 03C saltwell screen
- Lower the remaining section of Tank A-101 R2 thermocouple to the tank bottom.

Issues:

- A temporary shortage of respirator masks impacted retrieval fieldwork. Due to an employee concern regarding the cleanliness of masks, masks which were processed prior to November 15, 2019, were returned to the vendor for additional cleaning, resulting in a temporary shortage. Additional masks have been ordered to increase the onsite inventory. The masks contained some fine lint and a slight film on the inside of the lens.
- Installation of waste retrieval equipment in Tank AX-104 is being managed to minimize the risk of early equipment failure in a high radiation environment.
- Reduced worker efficiencies associated with mandatory use of supplied air continues to impact work in the tank farms. The use of full-face air purifying respirators has been approved for use in the AX Tank Farm during operation of exhausters (POR126/POR127). Mandatory use of supplied air respirators is required when the AX Tank Farm exhausters are not operating or during retrieval operations.
- The U.S. Department of Energy (DOE) is engaged in ongoing analysis of non-vapors-related retrieval challenges and condition issues associated with Tanks A-104 and A-105 (i.e., two of the nine tanks currently specified for retrieval under the B-2 Milestone).[3] These issues are under analysis and could require issuance of a "serious

[3] The U.S. Department of Energy met with the Washington State Department of Ecology and attorneys from the Washington State Office of the Attorney General on August 30, 2018, to discuss the retrieval challenges and issues with the condition of Tanks A-104 and A-105. The U.S. Department of Energy has had several discussions with the Washington State Department of Ecology on this topic since August 2018.

risk" notice or another request for amendment of the Consent Decree (including the B-2 Milestone).

- The as-found condition of existing abandoned equipment in AX and A Tank Farms has affected DOE's ability to remove the equipment efficiently and is affecting the cost and schedule.
  - Removal of Tank A-103 R2 thermocouple required a duration of 209 days to complete. The lower section of the thermocouple was damaged and could not be removed. Unique tooling was required to lower the remaining section to the tank bottom.
  - Removal of Tank A-101 R2 thermocouple required the top sections to be removed in two sections and the remaining third section to be lowered to the tank bottom.
  - Removal of Tank A-106 R2 thermocouple will require removal in sections, with the lower section left in the tank.
  - A stuck shield plug in Tank A-101 01C Pit will require an alternative method (core drilling) to tie in the ventilation system.
  - A stuck shield plug in Tank AX-102 02B Pit prevented the installation of the planned third extended reach sluicer.
- On December 3, 2018, the Washington State Department of Ecology (Ecology) sent the DOE Office of River Protection (ORP) and Richland Operations Office a letter (18-NWP-177) regarding the Hanford Site ambient air boundary. Ecology expressed its concern that the ambient air boundary appears to have changed because of increased public access to parts of the Hanford Site. DOE, Ecology, and the Washington State Department of Health have met several times to attempt to develop a shared understanding of existing conditions and a path forward.
- On January 28, 2019, ORP received a Washington River Protection Solutions LLC letter (WRPS-1900243), outlining potential impacts to tank retrievals at A and AX Tank Farms, due to a lack of Ecology regulatory approval associated with exhausters in the 241-A and 241-AX Tank Farms. On March 4, 2019, DOE transmitted WRPS-1900243 to ensure Ecology was aware of potential impacts to A and AX Tank Farm retrievals and possibly associated Consent Decree milestones, if Ecology does not approve a pending notice of construction application in the near future. DOE is continuing to evaluate the information in the letter, as well as whether amendment of the Consent Decree (including potential invocation of "force majeure" provisions) or other actions may be necessary. Retrieval of Tank AX-102 began on August 31, 2019, with the exhausters running at 1,000 standard cubic feet per minute. DOE is assessing retrieval performance at this airflow rate due to the potential for fogging at various stages of the retrieval process that may affect schedule.
- On April 18, 2019, Ecology provided a notice of incompleteness determination for the A and AX Tank Farms (19-NWP-063). ORP provided a response on May 14, 2019 (19-ECD-0038), which justified that the original application met the regulations and asked Ecology to continue processing the application. ORP submitted a revised

application on October 31, 2019 (19-ECD-0080), to provide supplemental information to address Ecology's comments.

Tank Waste Retrieval Work Plan Status

Tank Farms Assistant Manager: Rob Hastings
Federal Program Manager: Jeff Rambo

			Retrieval Technology		
Tank	**TWRWP**	**Expected Revisions**	**First**	**Second**	**Third**
AX-101	RPP-RPT-58932, Rev. 1	Complete	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-102	RPP-RPT-58933, Rev. 1	Complete	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-103	RPP-RPT-58934, Rev. 1	Complete	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–
AX-104	RPP-RPT-58935, Rev. 1	Complete	Sluicing with ERSS	High-Pressure Water deployed with ERSS	–

ERSS = extended reach sluicer system.
TWRWP = tank waste retrieval work plan.

Significant Accomplishments during the Prior Month:

- None.

Significant Planned Activities in the Next Month:

- None.

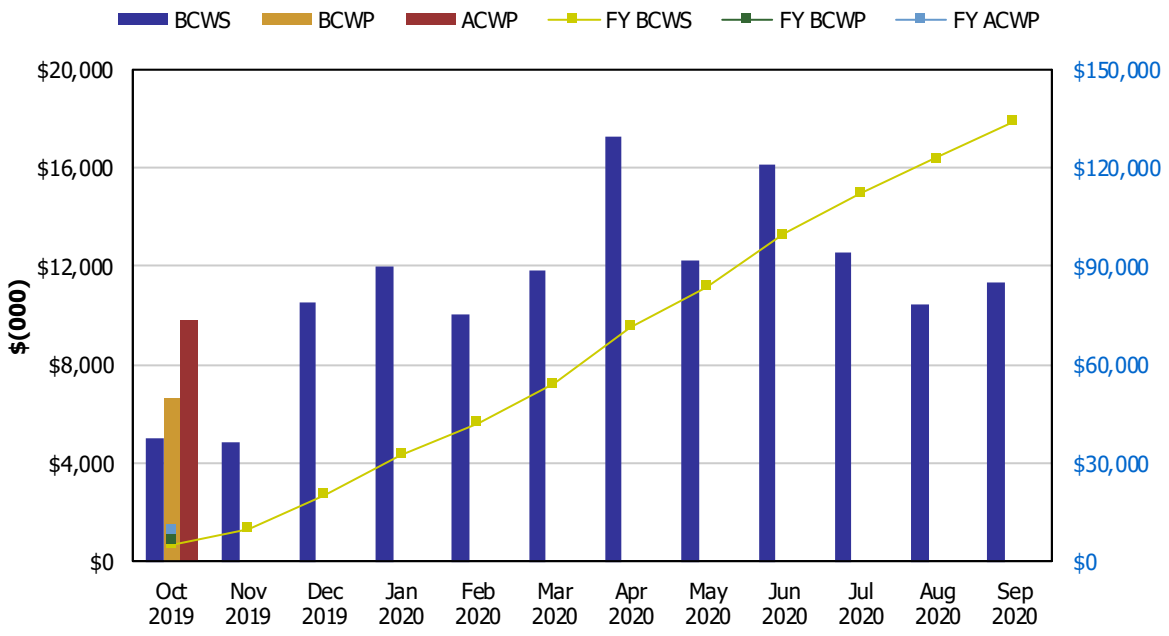
Issues:

- None.

Earned Value Data: Fiscal Year 2020 October-19

Tank Farms ORP-0014
WBS 5.2 - Retrieve and Close SSTs

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$5,039	$6,662	$9,772	1.32	0.68	$5,039	$6,662	$9,772	1.32	0.68
Nov 2019	$4,806			0.00	0.00	$9,845			0.00	0.00
Dec 2019	$10,506			0.00	0.00	$20,351			0.00	0.00
Jan 2020	$12,003			0.00	0.00	$32,355			0.00	0.00
Feb 2020	$10,051			0.00	0.00	$42,405			0.00	0.00
Mar 2020	$11,834			0.00	0.00	$54,240			0.00	0.00
Apr 2020	$17,256			0.00	0.00	$71,496			0.00	0.00
May 2020	$12,215			0.00	0.00	$83,711			0.00	0.00
Jun 2020	$16,108			0.00	0.00	$99,820			0.00	0.00
Jul 2020	$12,586			0.00	0.00	$112,405			0.00	0.00
Aug 2020	$10,472			0.00	0.00	$122,877			0.00	0.00
Sep 2020	$11,335			0.00	0.00	$134,212			0.00	0.00
CTD	$1,089,301	$1,068,003	$1,128,555	0.98	0.95					

ACWP	=	actual cost of work performed.	CTD	=	contract to date.
BCWP	=	budgeted cost of work performed.	EVMS	=	earned value management system.
BCWS	=	budgeted cost of work scheduled.	FY	=	fiscal year.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Retrieve and Close Single-Shell Tanks (5.02)[4]

The October 2019 favorable schedule variance (SV) of $1,622,300 was primarily due to:

- Schedule recovery for activities
  - Trench/Install A Tank Farm exhauster electrical
  - Install A Tank Farm ducting/condensate lines
  - Install A Tank Farm heat trace for vent system
  - Perform A Tank Farm at-tank installation of vent equipment
  - AX-103 equipment removal – remove pump from R01B
  - AX-103 equipment removal – dispose pump from R01B
  - AX-103 equipment removal – A Pit equipment installation preparation
  - A Tank Farm equipment removal vent – remove A-103 A-03C Pump
  - A Tank Farm equipment removal vent – remove thermocouple A-101 R2
  - A Tank Farm equipment removal vent – cleanout pit/load-out debris A-101 Pit A-01C
  - A Tank Farm equipment removal vent – dispose of A-103 A-03C Pump
  - A Tank Farm equipment removal vent – remove thermocouple A-103 R2.

This positive SV was impacted by an unfavorable SV due to a leaking Purex connector on an extended reach sluicing system (ERSS), which occurred during AX-102 retrieval operations.

The October 2019 unfavorable cost variance (CV) of ($3,110,200) was primarily due to:

- Subcontractor overtime being greater than planned. The October workscope focused on completing the electrical installation fieldwork for the A Tank Farm exhausters, which included the electrical conduit installation (trenching, installation, backfill, wire pulls, and terminations).
- The impacts are also due to a leaking Purex connector and a bent piston rod on the ERSS. During AX-102 retrieval operations in September, the ERSS in the 02C Pit developed a leak at the Purex connector, and the ERSS in 02D Pit sustained a bent hydraulic piston rod. The costs incurred were the result of investigations, recovery actions, and retrieval equipment configuration changes.
- Work on the A-103 R2 thermocouple removal. This thermocouple removal was originally planned to take 24 days, but took 209 days to complete. The activity is not worked continuously. The significant increase in duration is attributed to greater than expected in-tank thermocouple deterioration (damaged). Unique equipment fabrication not originally planned had to be performed by the subcontractor to complete this workscope.

[4] "Closure" activities are expressly excluded from the Consent Decree. See 2010 Consent Decree, Appendix C, first paragraph: "Processes not covered by a TWRWP (e.g., tank closure) are not established under this Consent Decree."

Waste Treatment and Immobilization Plant Project

Federal Project Director: Tom Fletcher

Deputy Federal Project Director: Mat Irwin

Milestone	Title	Due Date	Status
D-00A-06	Complete Methods Validations	06/30/2032	On Schedule
D-00A-17	Hot Start of Waste Treatment Plant	12/31/2033	At Risk[1]
D-00A-01	Achieve Initial Plant Operations for WTP	12/31/2036	At Risk[1]

[1] 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)."

WTP = Waste Treatment and Immobilization Plant.

The Waste Treatment and Immobilization Plant (WTP) Project continues to focus on completion of the Low-Activity Waste (LAW) Facility, Balance of Facilities (BOF), and Analytical Laboratory (LAB) (collectively known as LBL, including direct-feed low-activity waste [DFLAW] and LBL facility services).

As of October 2019, DFLAW modifications for the WTP Project were 82 percent complete, engineering design was 96 percent complete, procurement was 98 percent complete, and construction was 71 percent complete. As of October 2019, total LBL facilities were 79 percent complete, engineering design was 97 percent complete, procurement was 97 percent complete, construction was 93 percent complete, and startup and commissioning was 46 percent complete.

At the request of DOE, the U.S. Army Corps of Engineers conducted a parametric analysis of certain options and funding scenarios to evaluate the likelihood of achieving certain milestones established by the Amended Consent Decree for the High-Level Waste (HLW) and Pretreatment (PT) facilities. The analysis indicated there is a low probability that DOE can meet the milestones for constructing and commissioning these facilities established by the Amended Consent Decree under the current funding profile.

The DOE Office of Project Management conducted an independent assessment of the U.S. Army Corps of Engineers report. As noted previously, the Office of Project Management's assessment concluded the U.S. Army Corps of Engineers' analyses were generally accurate, although not sufficiently detailed for budget purposes, and they potentially understate the funding needed to complete the HLW and PT facilities on the schedule established by the Amended Consent Decree.

As previously noted, Ecology sent ORP and the Richland Operations Office a letter (18-NWP-177) on December 3, 2018, regarding the Hanford Site ambient air boundary. Ecology expressed its concern that the ambient air boundary appears to have changed because of increased public access to parts of the Hanford Site. DOE, Ecology, and the Washington State Department of Health have met several times to attempt to develop a shared understanding of existing conditions and a path forward.

ORP held initial meetings with the WTP HLW Treatment Analysis of Alternatives (AoA) contractor team in June 2019, with Ecology participation. The purpose of the AoA is to identify and evaluate a broad set of alternatives to meet the mission need; analyze the life-cycle cost, schedule, and risks associated with each alternative; and present the evaluation results to DOE leadership, pursuant to the requirements of DOE O 413.3B.

Membership on the DOE AoA Steering Committee was revised in July 2019 to include senior-level representation from DOE's Office of Project Management, Office of Cost Estimating and Program Evaluation, Office of the Chief Financial Officer, Office of Environmental Management, and Acquisition and Project Management for the National Nuclear Security Administration.

ORP approved the *Waste Treatment and Immobilization Plant High-Level Waste Treatment Analysis of Alternatives Study Plan* (Rev. 3). The Study Plan was updated to incorporate comments from new Steering Committee members to include the method, approach, and schedule to be used in conducting an independent AoA for the identified mission need.

On September 4, 2019, DOE notified Ecology that there is a serious risk DOE may be unable to meet milestones for the HLW and PT facilities in the Amended Consent Decree.[5] The notification stated:

> …it is appropriate, out of an abundance of caution, to provide this notice of serious risk as described in the Amended Consent Decree … Specifically, the Department is providing notice of a "serious risk … that DOE may be unable to meet" Milestones A-1 and A-17 (Waste Treatment Plant), Milestones A-2 to A-4 (HLW Facility), and A-13 to A-16 and A-19 (PT Facility) of that Decree. With respect to the "preliminary recovery plan" required by the Amended Consent Decree, completion of the AoA is the first and most critical aspect of that plan. The steps that follow the completion of the AoA will be determined based on the final report's conclusions and the Department's consultations with Ecology.[6]

Pursuant to Section IV-C-3(b) of the Amended Consent Decree[7], as requested by Ecology in a letter dated September 25, 2019, DOE staff met with Ecology on October 16, 2019, to answer questions Ecology had concerning the serious risk as well as to discuss mitigation options, cooperative solutions, and problem-solving opportunities.

[5] 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)."

[6] Footnotes 3 and 4 were omitted from this quote.

[7] *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016).

Significant Accomplishments during the Prior Month:

- The AoA team updated the alternative descriptions and corresponding flowsheets, along with the threats and opportunities document after incorporating comments from ORP. Modeling continued on various alternatives.
- Other significant accomplishments during the prior month are noted in project reports for the PT Facility, HLW Facility, LAW Facility, BOF, and LAB.

Significant Planned Activities for the Next Month:

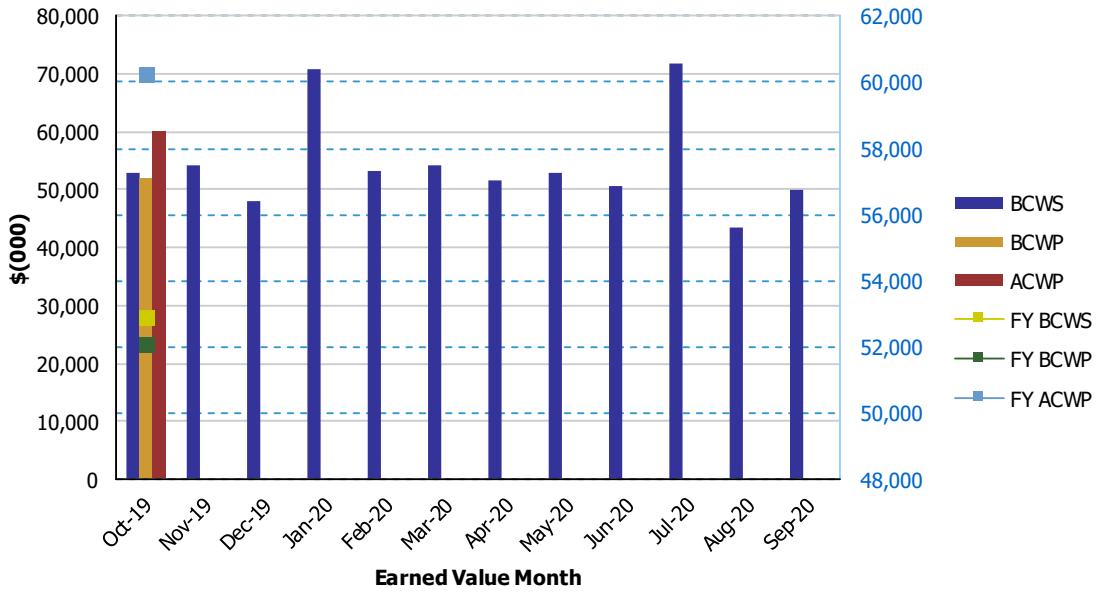
- The AoA team is planning an onsite working session the week of December 9, 2019. Topics will include reviewing the modeling results from various alternatives. An Ecology observer will be invited to participate in the onsite working session.
- ORP expects to receive DOE Headquarters approval of the DOE AoA *Steering Committee Charter* (Rev. 2), modified to reflect changes to the Steering Committee membership. The charter describes the functions, responsibilities, and authorities of committee members responsible for providing oversight of the performance of the AoA team.
- Other significant planned activities in the next month are noted in project reports for the PT Facility, HLW Facility, LAW Facility, BOF, and LAB.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
Waste Treatment Plant (WTP) Project

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$52,863	$52,079	$60,216	0.99	0.86	$52,863	$52,079	$60,216	0.99	0.86
Nov 2019	$54,223									
Dec 2019	$48,088									
Jan 2020	$70,746									
Feb 2020	$53,187									
Mar 2020	$54,108									
Apr 2020	$51,582									
May 2020	$52,937									
Jun 2020	$50,799									
Jul 2020	$71,788									
Aug 2020	$43,450									
Sep 2020	$49,948									

PTD	$11,931,091	$11,830,140	$11,809,946	0.99	1.00

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Project Schedule and Cost Variance Performance ($x1,000)

Performance Tracking	SV	CV
Current Period (October 2019)	($784)	($8,137)
Fiscal Year 2020 to-date	($784)	($8,137)
Cumulative (through October 2019)	($100,952)	$20,193

CV = cost variance.
SV = schedule variance.

For the October 2019 Earned Value Management System reporting period, a net unfavorable SV of approximately ($784,000) was reported, primarily due to the following:

- The LAW Facility reported an unfavorable SV due to delayed procurements, changes in execution strategy for training and documented safety analysis implementation being less than planned, and resequencing of Plant Engineering deliverables being pushed out to future months. In addition, some system turnovers were delayed impacting startup testing for the heating, ventilation, and air-conditioning (HVAC) systems; plant cooling water systems; and the radioactive liquid waste disposal system.

For the October 2019 Earned Value Management System reporting period, a net unfavorable CV of approximately ($8.1) million was reported, primarily due to the following:

- LAW Facility Construction reported an unfavorable CV due to additional field non-manual support required for the completion of construction activities. Startup reported an unfavorable CV due to equipment and component failure, which caused delays in testing and resulted in the need for additional testing and troubleshooting.
- DFLAW / Effluent Management Facility (EMF) Construction reported an unfavorable CV due to overtime work and back charges related to pipe coating repairs. Additional factors include scaffolding inspections, staging of the argon tank, relocating temporary power lines above radioactive waste transfer lines, and various material purchases.

Pretreatment Facility

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-18	Complete Structural Steel Erection Below Elevation 56′ in PT Facility	12/31/2009	Complete
D-00A-19	Complete Elevation 98′ Concrete Floor Slab Placements in PT Facility	12/31/2031	At Risk[1]
D-00A-13	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031	At Risk[1]
D-00A-14	PT Facility Construction Substantially Complete	12/31/2031	At Risk[1]
D-00A-15	Start PT Facility Cold Commissioning	12/31/2032	At Risk[1]
D-00A-16	PT Facility Hot Commissioning Complete	12/31/2033	At Risk[1]

[1] 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)."

PT = pretreatment.

The PT Facility will separate radioactive tank waste into high-level waste and low-activity waste fractions and transfer each waste type to the respective facility for immobilization. As of September 2012, the PT Facility was 56 percent complete overall, engineering design was 85 percent complete, procurement was 56 percent complete, construction was 43 percent complete, and startup and commissioning was 3 percent complete. The physical percent complete analysis for the PT Facility was frozen in September 2012, pending development of a revised baseline to address technical and design issues.

ORP and Bechtel National, Inc. (BNI) completed resolution of all the technical issues identified in the Third Order Regarding Motions to Modify Consent Decrees[8].

In addition, ORP and BNI completed resolution of technical issues not included in the Third Order Regarding Motions to Modify Consent Decrees (i.e., T6 in relation to design redundancy and in-service inspection, and T7 in relation to seismic ground motion criteria changes in 2005). ORP notified BNI in July 2019 that it concurred with BNI's determination that the PT Facility's technical issues have been resolved.[9]

[8] *State of Washington v. Dept. of Energy*, No: 2:08-CV-5085-RMP (March 11, 2016) (ECF-221).

[9] 19-WTP-0078, "Contract No. DE-AC27-01RV14136 – Concurrence on the Resolution of Technical Issues (T1 – T8) for the Waste Treatment and Immobilization Plant Pretreatment Facility," July 16, 2019.

Significant Accomplishments during the Prior Month:

- BNI continued to manage suspended plant equipment purchase orders to reduce storage and suspension cost and evaluate ways to reduce project procurement liability.
- BNI continued to implement ongoing asset maintenance at the PT Facility to protect equipment and structures and ensure design documents are maintained.

Significant Planned Activities for the Next Month:

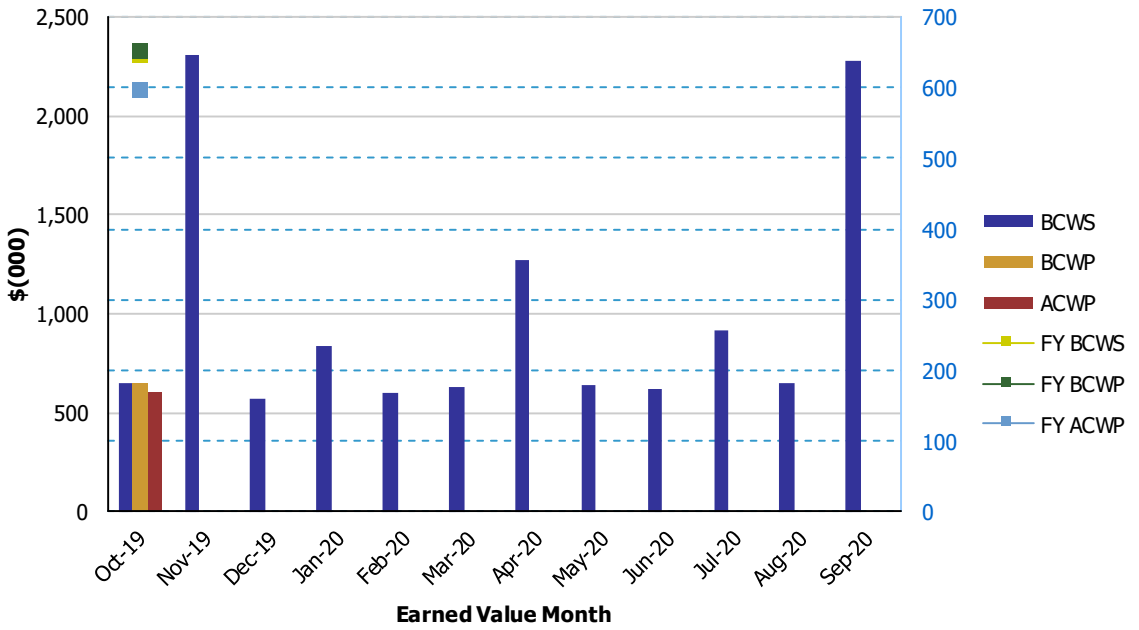
- BNI will continue to manage suspended plant equipment purchase orders to reduce storage and suspension cost and evaluate ways to reduce project procurement liability.
- BNI will continue to implement ongoing asset maintenance at the PT Facility to protect equipment and structures and ensure design documents are maintained.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
Pretreatment Facility (WBS 1.01)

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$647	$651	$597	1.01	1.09	$647	$651	$597	1.01	1.09
Nov 2019	$2,312									
Dec 2019	$568									
Jan 2020	$842									
Feb 2020	$601									
Mar 2020	$631									
Apr 2020	$1,274									
May 2020	$636									
Jun 2020	$617									
Jul 2020	$921									
Aug 2020	$646									
Sep 2020	$2,281									

PTD	$3,513,728	$3,511,791	$3,448,502	1.00	1.02

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

High-Level Waste Facility

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-20	Complete Construction of Structural Steel to Elevation 14′ in HLW Facility	12/31/2010	Complete
D-00A-21	Complete Construction of Structural Steel to Elevation 37′ in HLW Facility	12/31/2012	Complete
D-00A-02	HLW Facility Construction Substantially Complete	12/31/2030	At Risk[1]
D-00A-03	Start HLW Facility Cold Commissioning	06/30/2032	At Risk[1]
D-00A-04	HLW Facility Hot Commissioning Complete	12/31/2033	At Risk[1]

[1] 19-ORP-0007, 2019, "Discussion of Amended Consent Decree – State of Washington v. Perry (E.D. Wash. No. 2:08-CV-5085)."

HLW = high-level waste.

The HLW Facility will receive the separated high-level waste concentrate from the PT Facility. This concentrate will be blended with glass formers, converted into molten glass in one of the two HLW Facility melters and then poured into cylindrical stainless steel canisters. After cooling, the canisters will be sealed and decontaminated before shipping to interim storage.

As of September 2012, the HLW Facility was 62 percent complete overall, engineering design was 89 percent complete, procurement was 81 percent complete, construction was 43 percent complete, and startup and commissioning was 4 percent complete. The physical percent complete analysis for the HLW Facility was frozen in September 2012, pending development of a revised baseline to address technical and design issues.

Work on the HLW Facility is being performed in accordance with the fiscal year (FY) 2017 through FY 2021 Interim Work Plan, which initially was for work primarily associated with asset maintenance and key ongoing procurement activities. With the receipt of increased funding in FY 2018, additional engineering workscope was performed in FY 2019 and is expected to continue to ramp up in FY 2020 in anticipation of receiving engineering resources from DFLAW/LBL activities.

In March 2019, DOE awarded the AoA contract for the high-level waste treatment mission. The purpose of the AoA is to identify all viable options to meet mission needs and reduce risk, while providing decision-quality analysis and results to inform the acquisition authority and other stakeholders of all the alternatives to meet both Departmental and Environmental Management policy requirements. Additional information regarding the AoA process is included in the WTP section at the beginning of this report.

Significant Accomplishments during the Prior Month:

- BNI issued documents and initiated a planned 60-percent design review of the HLW Facility melter feed process system.
- BNI continued to manage suspended plant equipment purchase orders to reduce storage and suspension costs and evaluate ways to reduce project procurement liability.
- BNI continued to implement asset maintenance at the HLW Facility to protect equipment and structures and ensure design documents are maintained.
- Fabrication is complete for radioactive liquid waste disposal system vessels 7 and 8 (i.e., RLD-7 and RLD-8). The vendor is finishing quality verification documents; delivery of the vessels to BNI is now expected to be completed in early calendar year 2020. These vessels are to be installed in the wet process cell to allow concrete slab placement above the wet cell. This activity supports roof installation and building enclosure.

Significant Planned Activities in the Next Month:

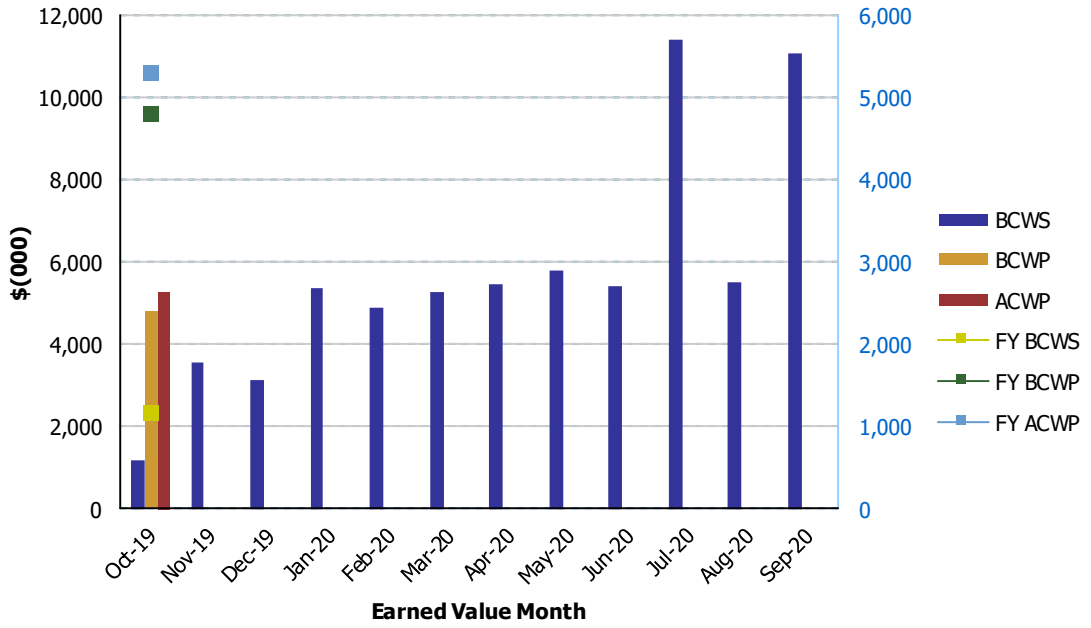
- BNI will continue to ramp-up engineering design activities on key mechanical and process systems for the HLW Facility. Priority systems for FY 2020 include the design of the HLW Facility melter feed process and the primary offgas process systems.
- BNI is expected to conduct a 60-percent design review of the HLW Facility melter feed process system.
- BNI will continue to manage suspended plant equipment purchase orders to reduce storage and suspension costs and evaluate ways to reduce project procurement liability.
- BNI will continue to implement ongoing asset maintenance at the HLW Facility to protect equipment and structures and ensure design documents are maintained.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
High-Level Waste Facility (WBS 1.03)

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$1,158	$4,792	$5,293	4.14	0.91	$1,158	$4,792	$5,293	4.14	0.91
Nov 2019	$3,569									
Dec 2019	$3,124									
Jan 2020	$5,385									
Feb 2020	$4,871									
Mar 2020	$5,285									
Apr 2020	$5,461									
May 2020	$5,778									
Jun 2020	$5,426									
Jul 2020	$11,396									
Aug 2020	$5,525									
Sep 2020	$11,059									

PTD	$2,504,908	$2,503,214	$2,453,094	1.00	1.02

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Low-Activity Waste Facility[10]

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Wahed Abdul

Milestone	Title	Due Date	Status
D-00A-07	LAW Facility Construction Substantially Complete	12/31/2020	On Schedule
D-00A-08	Start LAW Facility Cold Commissioning	12/31/2022	On Schedule
D-00A-09	LAW Facility Hot Commissioning Complete	12/31/2023	On Schedule

LAW = low-activity waste.

The LAW Facility will process concentrated low-activity waste, which will be mixed with silica and other glass-forming materials. The mixture will be fed into the LAW Facility's two melters at a design capacity of 30 metric tons per day, heated to 2,100°F, and vitrified into glass. The 300-ton melters are approximately 20 feet by 30 feet and 16 feet high. The glass mixture will then be poured into stainless steel containers, which are 4 feet in diameter, 7 feet tall, and weigh more than 7 tons. These containers are anticipated to be disposed of on the Hanford Site in the Integrated Disposal Facility.

As of October 2019, the LAW Facility was 81 percent complete overall, engineering design was 97 percent complete, procurement was 99 percent complete, construction was 98 percent complete, and startup and commissioning was 31 percent complete.

Recent BNI efforts at the LAW Facility have focused on implementing design changes against the approved safety basis, and completion of procurement and construction activities. Additionally, Construction is walking down completed systems with the Startup organization in support of turnover for testing and subsequent handover to the Plant Management organization for facility commissioning.

To date, 86 percent of LAW Facility systems have been turned over from Construction[11] to the Startup organization. In addition, Plant Management has accepted handover of 37 percent of the LAW Facility systems from the Startup organization. The active gas analyzer was delivered in November 2019. The active gas analyzer was the last of 6,800+ pieces of tagged equipment to arrive, completing all LAW Facility major equipment deliveries.

[10] Discussions about the related Low-Activity Waste Pretreatment System and tank-side cesium removal are included in the monthly reports submitted under the *Hanford Federal Facility Agreement and Consent Order* (also known as the Tri-Party Agreement or TPA). Prior discussions are in reports archived in the Administrative Record.

[11] Bechtel National, Inc. Construction will direct transfer the communications electrical systems to Plant Management.

Significant Accomplishments during the Prior Month:

- BNI Construction completed turnover of the LAW Facility uninterruptible power electrical system (UPE-L-03) to the Startup organization for testing.
- BNI's Startup organization completed handover of the following LAW Facility demineralized water master subsection systems to Plant Management:
  - DIW-L-01.
  - DIW-L-02.
  - DIW-L-03.
  - DIW-L-04.
  - DIW-L-05.
- BNI vendor completed shipment of the active gas analyzer.

Significant Planned Activities in the Next Month:

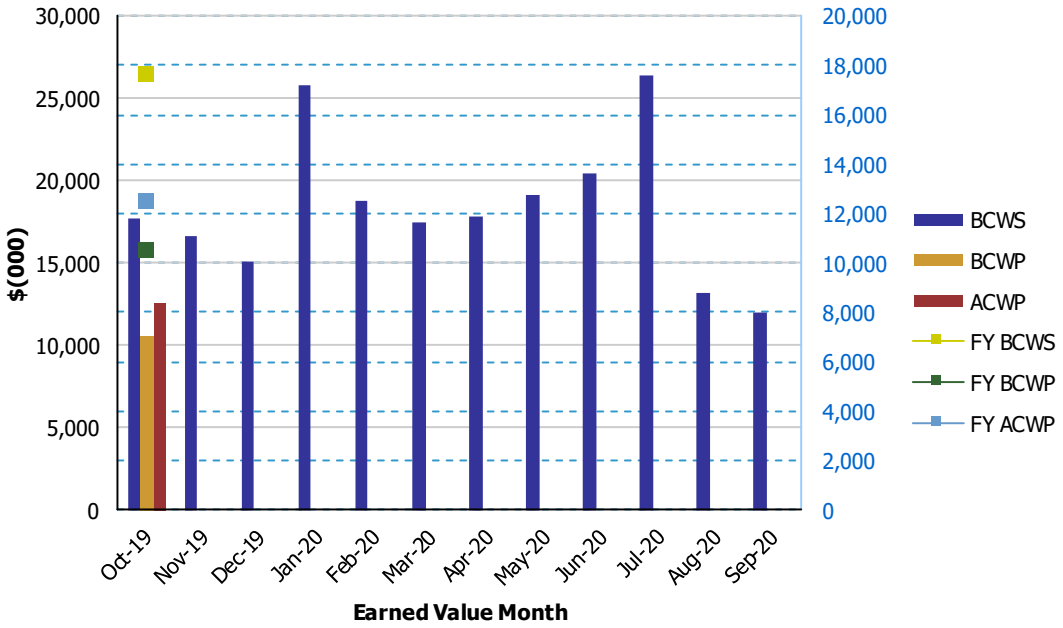
- BNI Construction expects to continue completing walkdowns on various systems in support of turning those systems over to the Startup organization.
- BNI's Startup organization expects to continue handing over LAW Facility systems to Plant Management.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
Low-Activity Waste Facility (WBS 1.02)

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$17,656	$10,507	$12,532	0.60	0.84	$17,656	$10,507	$12,532	0.60	0.84
Nov 2019	$16,594									
Dec 2019	$15,139									
Jan 2020	$25,780									
Feb 2020	$18,782									
Mar 2020	$17,433									
Apr 2020	$17,820									
May 2020	$19,095									
Jun 2020	$20,494									
Jul 2020	$26,417									
Aug 2020	$13,204									
Sep 2020	$11,935									
PTD	$2,302,322	$2,252,322	$2,255,565	0.98	1.00					

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Balance of Facilities

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Jason Young

Milestone	Title	Due Date	Status
D-00A-12	Steam Plant Construction Complete	12/31/2012	Complete

BOF will provide services and utilities to support operation of the main production facilities: PT, HLW, LAW, and LAB. As of October 2019, BOF was 86 percent complete overall, engineering design was 96 percent complete, procurement was 100 percent complete, construction was 93 percent complete, and startup and commissioning was 69 percent complete. Design of EMF was 100 percent complete.

BNI Engineering efforts are focused on supporting EMF construction and providing field support for BOF startup activities. Construction efforts are focused on the installation of EMF pipe racks, piping, and HVAC ductwork. Startup testing continues for systems in the steam plant and chiller compressor plant.

All BOF utility and process systems, excluding EMF, have been turned over from Construction[12] to the Startup organization. In addition, 83 percent of the BOF systems have been handed over from the Startup organization to Plant Management. BNI is working to complete construction activities and turn over the scoped systems in EMF to support early startup testing activities.

Significant Accomplishments during the Prior Month:

- BNI's Startup organization completed handover of the following BOF systems to Plant Management:
  - Diesel fuel oil system (DFO-B-01).
  - Plant service air systems (PSA-B-01, PSA-B-02).
  - Steam plant communication system (PCJ-B-08).
  - Chiller compressor plant low-voltage system (LVE-B-07).
  - Glass former facility low-voltage system (LVE-B-10).
- BNI completed maintenance and repairs in the cooling tower reservoir.
- BNI continued load testing for the standby diesel generator.
- BNI continued to pull the cables between the powerhouse and EMF.
- BNI Construction continued installation of structural steel, piping, HVAC ductwork, roofing, and siding at EMF.

[12] Bechtel National, Inc. Construction will direct transfer the communications electrical systems to Plant Management. In addition, the sanitary disposal and lighting/electrical systems are now under the Island Completion team.

- BNI Construction continued excavating around the EMF for installation of transfer piping.
- BNI Construction continued installation of bulk process piping, electrical commodities, roofing, and siding at the EMF utilities building.

Significant Planned Activities in the Next Month:

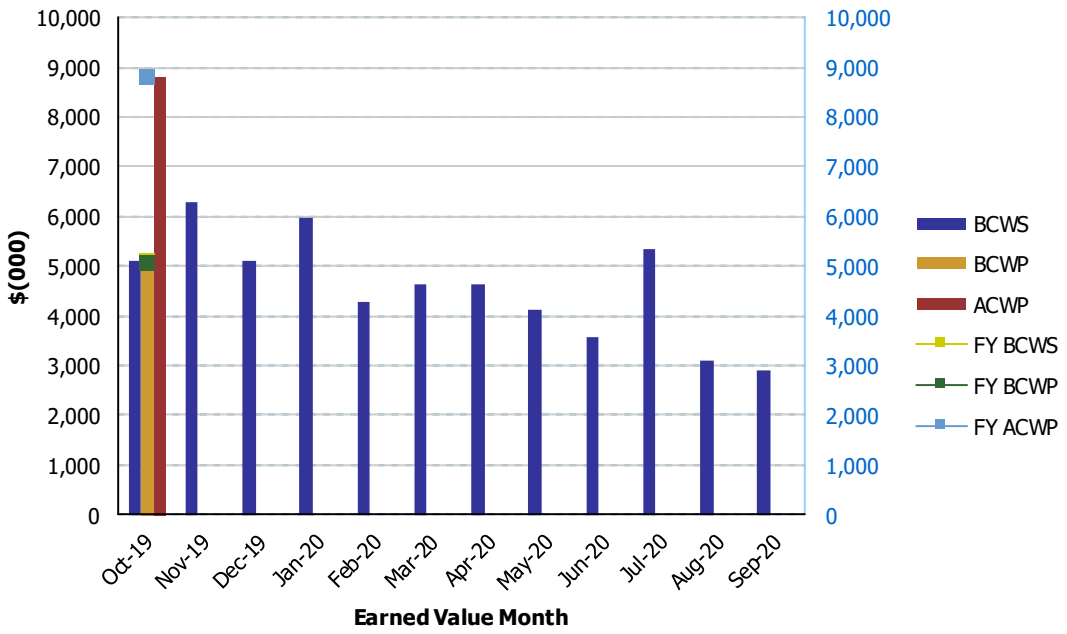
- BNI's Startup organization and Plant Management will continue to focus on ensuring BOF air, water, and power systems are ready for operations.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
Balance of Facilities (WBS 1.05)

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$5,103	$5,056	$8,817	0.99	0.57	$5,103	$5,056	$8,817	0.99	0.57
Nov 2019	$6,296									
Dec 2019	$5,101									
Jan 2020	$5,989									
Feb 2020	$4,264									
Mar 2020	$4,623									
Apr 2020	$4,618									
May 2020	$4,105									
Jun 2020	$3,570									
Jul 2020	$5,327									
Aug 2020	$3,108									
Sep 2020	$2,888									

PTD	$920,092	$907,988	$945,330	0.99	0.96

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Analytical Laboratory

Federal Project Director: Tom Fletcher

Facility Federal Project Director: Jason Young

Milestone	Title	Due Date	Status
D-00A-05	LAB Construction Substantially Complete	12/31/2012	Complete

LAB = analytical laboratory.

The LAB will support WTP operations by analyzing feed, vitrified waste, and effluent streams. As of October 2019, the LAB was 83 percent complete overall, engineering design was 97 percent complete, procurement was 100 percent complete, construction was 99 percent complete, and startup and commissioning was 50 percent complete.

Activities in the LAB are focused on startup testing and system handovers. To date, all LAB systems have been turned over from BNI Construction to the Startup organization. In addition, 84 percent of the LAB systems have been handed over from the Startup organization to Plant Management[13]. Procedure and methods development continues at the offsite laboratory facility, and BNI is in the process of installing analytical equipment onsite in the LAB.

Significant Accomplishments during the Prior Month:

- BNI continued installation of analytical equipment and tuning of equipment enclosure ventilation systems.
- BNI's Startup organization completed handover of the following LAB systems to Plant Management.
  - Process control system (PCJ-A-01).
  - Environmental monitoring system (EMJ-A-01).
  - Temporary control room controls system (PCJ-B-23).
- BNI's Startup organization continued component and system startup testing for the remaining LAB systems.
- BNI Plant Management continued operational testing and refurbishment of multiple LAB systems.
- BNI continued offsite activities to progress LAB procedure development and analytical method validation.

[13] Bechtel National, Inc. Construction will direct transfer the communications electrical systems to Plant Management

Significant Planned Activities in the Next Month:

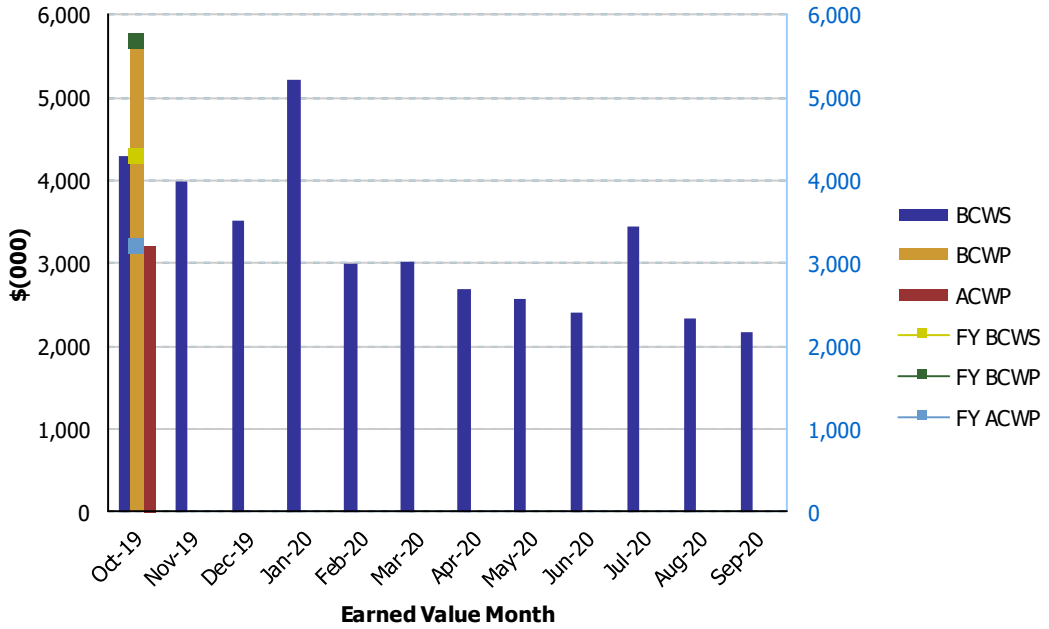
- BNI expects to continue startup testing of LAB systems and handover of systems to operations when startup testing of systems is complete.

EXC-01a: Fiscal Year Cost and Schedule Report

Data Set: FY 2020 Earned Value Data Data as of: October 2019

River Protection Project
Analytical Laboratory (WBS 1.06)

EVMS Monthly and Fiscal Year Values



Earned Value Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2019	$4,297	$5,683	$3,222	1.32	1.76	$4,297	$5,683	$3,222	1.32	1.76
Nov 2019	$3,984									
Dec 2019	$3,508									
Jan 2020	$5,220									
Feb 2020	$3,008									
Mar 2020	$3,020									
Apr 2020	$2,689									
May 2020	$2,577									
Jun 2020	$2,399									
Jul 2020	$3,448									
Aug 2020	$2,339									
Sep 2020	$2,163									

PTD	$448,149	$441,096	$426,663	0.98	1.03

ACWP	=	actual cost of work performed.	EVMS	=	earned value management system.
BCWP	=	budgeted cost of work performed.	FY	=	fiscal year.
BCWS	=	budgeted cost of work scheduled.	PTD	=	project to date.
CPI	=	cost performance index.	SPI	=	schedule performance index.

Waste Treatment Plant Project Percent Complete Status (Table)

Waste Treatment Plant Project - (LBL/Project Services) Percent Complete Status

Through October 2019

(Dollars - Millions)	Overall Facility Percent Complete Unallocated Dollars			Design/Engineering Unallocated Dollars			Procurement Unallocated Dollars			Construction Unallocated Dollars			Startup & Plant Operations Unallocated Dollars			Project Management & Shared Services Unallocated Dollars		
Facilities	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete	Performance Measurement Baseline (PMB)	Budgeted Cost of Work Performed (BCWP)	% Complete
Low-Activity Waste	2,275.0	1,836.4	81%	589.8	571.3	97%	342.9	340.8	99%	753.0	739.2	98%	578.1	180.7	31%	11.1	4.4	40%
Balance of Facilities	784.2	676.7	86%	156.7	151.1	96%	60.8	60.6	100%	304.4	282.8	93%	261.8	181.6	69%	0.5	0.5	100%
Analytical Lab	479.5	396.6	83%	94.7	92.0	97%	60.5	60.4	100%	166.0	165.0	99%	155.2	78.3	50%	3.0	0.8	26%
Direct Feed LAW	434.6	355.8	82%	111.1	106.2	96%	72.4	70.9	98%	241.4	171.9	71%	0.0	0.0	0%	9.6	6.9	72%
LBL Facility Services	760.4	496.0	65%	0.0	0.0	0%	71.3	56.3	79%	105.7	104.4	99%	326.9	172.7	53%	256.5	162.6	63%
Total LBL	**4,733.6**	**3,761.4**	**79%**	**952.5**	**920.6**	**97%**	**607.9**	**589.0**	**97%**	**1,570.6**	**1,463.3**	**93%**	**1,322.0**	**613.4**	**46%**	**280.7**	**175.2**	**62%**
Project Services	908.3	696.5	77%	92.5	87.5	95%	65.6	53.1	81%	101.0	90.5	90%	7.5	3.5	47%	641.8	461.9	72%
Total Project Services	**908.3**	**696.5**	**77%**	**92.5**	**87.5**	**95%**	**65.6**	**53.1**	**81%**	**101.0**	**90.5**	**90%**	**7.5**	**3.5**	**47%**	**641.8**	**461.9**	**72%**
Total LBL, DFLAW & Project Services	**5,641.9**	**4,457.9**	**79%**	**1,044.9**	**1,008.1**	**96%**	**673.4**	**642.1**	**95%**	**1,671.5**	**1,553.9**	**93%**	**1,329.5**	**616.9**	**46%**	**922.5**	**637.1**	**69%**
PT/HLW/SS Percent Complete Status Frozen as of September 2012 (due to project rebaselining efforts)																		
High-Level Waste	1,478.6	922.1	62%	364.4	325.2	89%	433.9	349.4	81%	561.1	243.2	43%	119.2	4.4	4%	n/a	n/a	n/a
Pretreatment	2,517.3	1,410.5	56%	761.7	645.8	85%	679.9	380.4	56%	890.0	378.6	43%	185.8	5.6	3%	n/a	n/a	n/a
Shared Services	4,726.9	3,632.6	77%	1,047.0	977.9	93%	451.7	395.0	87%	1,436.5	1,143.0	80%	453.5	133.2	29%	1,338.1	983.5	73%
Total HLW/PT/SS	**8,722.8**	**5,965.2**	**68%**	**2,173.1**	**1,948.9**	**90%**	**1,565.5**	**1,124.8**	**72%**	**2,887.6**	**1,764.8**	**61%**	**758.5**	**143.2**	**19%**	**1,338.1**	**983.5**	**73%**
Undistributed Budget	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total WTP	**14,364.7**	**10,423.1**	**73%**	**3,218.0**	**2,957.0**	**92%**	**2,238.9**	**1,766.9**	**79%**	**4,559.1**	**3,318.7**	**73%**	**2,088.0**	**760.1**	**36%**	**2,260.6**	**1,620.6**	**72%**

Source: Preliminary WTP Contract Performance Report - Format 1, Data for October 2019

Note: In September 2012, the LBL Replan was incorporated into the project OTB baseline resulting in increases/decreases to the LBL facility budgets, which correspondingly increased/decreased the facility/function to-date percent complete values. In October 2012, the PT/HLW/SS Interim Work Plan was incorporated into the project OTB baseline resulting in decreases to the PT/HLW/SS facility budgets, this was due to a work scope shift from the Distributed budget to UB. Percent Complete Values shown for PT, HLW and SS have been frozen with the September 2012 values due to the Interim Work Plan and budgets being moved into UB. UB value for the project for PT/HLW/SS is $2,014M. The percent complete values for the Total WTP are the current total LBL BCWP added to the frozen HLW/PT/SS BCWP values. In March 2014, Project Controls and Project Management work scope was moved out of Shared Services control accounts into the facilties with new control accounts being set up in the facilities. These will now be seen under Project Management/Shared Services by facility. The Shared Services PMB value has not been changed to reflect this change due to the freeze on HLW/PT and SS and the budgets remaining in UB. October 2014 data reflects the incorporation of Direct Feed LAW and the split of Shared Services into LBL Facility Services and Project Services. March 2016 LBL percent complete data is a total of LAW-BOF-LAB-DFLAW and LBL Facility Services. The Project Services Allocation account (zPSA), as shown on the CPR Format 1, is not added to LBL for percent complete purposes.